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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/046,509

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Atsushi Ogino

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06/17/2004

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EXAMINER

NGUYEN, DUC MINH

ART UNIT

PAPER NUMBER

2643

6

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,509

Applicant(s)

OGINO ET AL.

Examiner

Duc Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,10-12,14 and 15 is/are rejected.
- 7) ☒ Claim(s) 3,8,9 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2,4-5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Lopez et al (5,684,794).

Consider claim 1. Lopez teaches an offset measuring method for receiving signals (mobile units 16 and 18, fig. 1) from a radio base station (12 and 14, fig. 1) and measuring a transmitting time offset of the radio base station, comprising calculating estimated values of transmitting time offset based on signals received at a plurality of observation points (col. 7, ln. 25 to col. 9, ln. 60); and selecting a minimum from the estimated offset values to determine the minimum value as a measured value of transmitting time offset of the base station (col. 9, ln. 10-60; col. 10, ln. 45-67).

Consider claim 4. Lopez further suggests that if the received signal is not good, the signal is excluded from the offset measuring (last 6 lines of the abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lopez et al (5,684,794) in view of Drane et al (6,275,705).

Consider claim 2. Lopez does not clearly teach that the estimated offsets are calculated from a time at which a particular signal is transmitted from the radio base station, a time at which the particular signal transmitted from the radio base station is received, and a distance between the radio base station and a receiving antenna.

Drane teaches the estimated offsets are calculated from a time at which a particular signal is transmitted from the radio base station, a time at which the particular signal transmitted from the radio base station is received (col. 12, ln. 30-52), and a distance between the radio base station and a receiving antenna (col. 12, ln. 30-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Drane into the teachings of Lopez in order to provide various techniques to more accurately measure arrival times of transmissions received at a remote terminal from a number of base stations.

5. Claims 5-7, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lopez et al (5,684,794) in view of Zhodzishky (6,268,824).

Consider claim 5. Zhodzishky further teaches that timing information used as a base of the offset measurement is generated from GPS satellites (col. 9, ln. 39 to col. 10, ln. 6).

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Consider claim 6. Zhodzishky further teaches timing information is generated from a base station (GPS satellites; col. 9, ln. 39 to col. 10, ln. 6) other than the base station whose offset is to be measured.

Consider claims 7, 14-15. Lopez teaches an offset measuring method for receiving signals (mobile units 16 and 18, fig. 1) from a radio base station (12 and 14, fig. 1) and measuring a transmitting time offset of the radio base station, comprising calculating estimated values of transmitting time offset based on signals received at a plurality of observation points (col. 7, ln. 25 to col. 9, ln. 60); and selecting a minimum from the estimated offset values to determine the minimum value as a measured value of transmitting time offset of the base station (col. 9, ln. 10-60; col. 10, ln. 45-67). Lopez does not clearly teach a measuring unit for received timing that measures a received timing of a signal transmitted from the base station with reference to base clocks

Zhodzishky teaches a measuring unit for received timing that measures a received timing of a signal transmitted from the base station with reference to base clocks (col. 9, ln. 39 to col. 10, ln. 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Zhodzishky into the teachings of Lopez in order to determine the baseline coordinates in the system of differential satellite navigation with greater and more reliable accuracy.

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6. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lopez et al (5,684,794) in view of Zhodzishky (6,268,824) as applied to claim 7 above, and further in view of Coleman (4,057,803).

Consider claims 10-12. Lopez in view of Zhodzishky does not teach that the offset measuring means has a plurality of antennas to receive the signals from the radio base station at a plurality of locations.

Coleman teaches that the offset measuring means has a plurality of antennas to receive the signals from the radio base station at a plurality of locations (col. 1, ln. 50 to col. 2, ln. 15; col. 27, ln. 39 to col. 28, ln. 57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Coleman into the teachings of Lopez in view of Zhodzishky in order to permit the installation of adaptive DOA antenna on relatively small platforms and to permit direct implementation of an adaptive DOA antenna system on air, land and water vehicles having relatively small sizes.

Allowable Subject Matter

7. Claims 3, 8-9, 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Nguyen whose telephone number is 703-308-7527. The examiner can normally be reached on 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Duc Nguyen
Primary Examiner
Art Unit 2643

5/11/04